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December 23, 2009

Commissioner Julia Levin, Presiding Member  
Vice Chair James D. Boyd, Associate Member  
Mr. Craig Hoffman, Project Manager  
Abengoa Mojave Solar Project (09-AFC-5)  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

**Re: Abengoa Mojave Solar Project (09-AFC-5): Supplemental Written Response  
to Data Request Set 1A (nos. 1-93)**

Dear Commissioners Levin and Boyd:

Abengoa Solar Inc. (the "Applicant") hereby files these written responses to certain Data Requests in Set 1A promulgated by Staff on October 22, 2009. The Applicant requested additional time to respond to several Data Requests in Set 1A regarding Biological Resources and Land Use in a Notice filed on November 11, 2009. This supplemental response contains responses to those requests including: Data Requests 49, 51, 52, 53, 54, 55, 56, 57, 58B, 59, 69, 71, 72, 78, 79, and 80.

In addition, the Applicant requested additional time to respond to several Data Requests in Set 1A regarding Air Quality and Public Health, including Data Requests 17, 29, 30, 31, 84 and 85. The Applicant is working to complete the requested modeling and technical work as soon as possible. The Applicant discussed a projected date of submittal of January 4, 2010 for these remaining responses with the Project Manager who agreed with this schedule.

The Applicant appreciates Staff's time and efforts reviewing the enclosed materials. The Applicant looks forward to working with Staff to achieve complete and satisfactory resolution of all issues in a timely manner.

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Thank you for your time and consideration of this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Christopher Ellison". The signature is fluid and cursive, with a small mark above the final "i".

Christopher T. Ellison  
Shane E. Conway  
Ellison, Schneider & Harris, L.L.P.

Attorneys for Abengoa Solar Inc.

Attachment

## BIOLOGICAL RESOURCES

### Item 49:

#### Information Required:

Wetland delineation maps in Data Adequacy Supplement Attachment D, show 2.02 acres of potential State-jurisdictional waters (riparian extent; tamarisk scrub) occurring in the proposed project area; this is contradictory to the 1.74 acres presented in Table 5.3-8 of the AFC. Please explain this discrepancy and provide an updated Table 5.3-8 (and Table 5.3-7) and/or wetland delineation maps.

#### Response:

The discrepancy was an addition error. Provided below are the tables presenting potential jurisdictional waters occurring within the survey area, which are in the August 26, 2009, Mojave Solar Project Jurisdictional Delineation Letter Report (JDLR) (AECOM 2009). Attached is Figure 8 (Potential Jurisdictional Waters of the U.S. and State) from the JDLR (Attachment for Response to Data Request 49).

**Table 2**  
**Potential Jurisdictional Waters of the U.S.<sup>a</sup>**  
**Occurring within the Project Area**

Type of Jurisdictional Waters of the U.S.	Type of Habitat (Holland 1986)	Type of Habitat (Cowardin et al. 1979)	Regulatory Authority <sup>a</sup>	Area of Aquatic Resource (Acres) <sup>b</sup>
Wetland	Tamarisk Scrub (63810)	Palustrine; Scrub/Shrub, Needle-Leaved, Evergreen, Seasonally Flooded/Saturated, Mixosaline, Alkaline	USACE, CDFG	1.32
<b>Total USACE Waters =</b>				<b>1.32</b>

<sup>a</sup> Jurisdictional waters of the U.S. are also jurisdictional waters of the State, as discussed below.

<sup>b</sup> Jurisdictional waters acreage within the Project Area was determined by utilizing ArcGIS. All acreages are rounded to the nearest hundredth.

**Table 3**  
**Potential Jurisdictional Waters of the State**  
**Occurring within the Project Area**

Type of Jurisdictional Waters of the U.S.	Type of Habitat (Holland 1986)	Type of Habitat (Cowardin et al. 1979)	Regulatory Authority	Area of Aquatic Resource (Acres) <sup>a</sup>
Lacustrine Riparian Extent	Tamarisk Scrub (63810)	Palustrine; Scrub/Shrub, Needle-Leaved, Evergreen, Seasonally Flooded/Saturated, Mixosaline, Alkaline	CDFG, RWQCB	1.74
Lakebed	Alkali Playa (46000)	Lacustrine, Littoral, Unconsolidated Bottom, Sand, Intermittently Flooded/Temporary, Hypersaline, Alkaline	CDFG, RWQCB	9.44
<b>Total CDFG Waters</b>				<b>12.5<sup>b</sup></b>

<sup>a</sup> Jurisdictional waters acreage within the survey area was determined by utilizing ArcGIS. All acreages are rounded to the nearest hundredth.

<sup>b</sup> This total includes the 1.32 acres of potential jurisdictional waters of the U.S., which are also potential jurisdictional waters of the State (also as lacustrine riparian extent), as listed in Table 2 and discussed above.

### **Item 51:**

#### **Information Required:**

- A. If impacts to jurisdictional waters would be avoided by drainage outlet design modifications and placement of facility structures (as stated on AFC pg. 5.3-39), please provide a map, at appropriate scale, that shows the location of the drainage outlet and facility structures in relation to jurisdictional waters.
- B. Describe how impacts are avoided.

#### **Response:**

- A. Please see attached Figure 13 (Jurisdictional Delineation and Plant Site Details) and Figure 14 (Jurisdictional Delineation Detail and Plant Site) from the JDLR for the location of the drainage outlet and facility structure (Channel A3) (Attachment for Response to Data Request 51). Please see Section 2 (Exhibits) of the Hydrology Study for Mojave Solar Project (Merrell-Johnson Engineering 2009) (See AFC, Appendix K.2).
- B. Impacts are avoided to the 1.32 acres of tamarisk scrub wetland through a construction exclusion area. Please refer to Figure 8 (Potential Jurisdictional Waters of the U.S. and State) from the JDLR (Attachment for Response to Data Request 49).

- Potential impacts to the playa lakebed will be avoided through the drainage plan and design. Intercepted sheet runoff/flow will be conveyed in their historical flow volume and patterns as they leave the project site and flow into Harper Dry Lake (please refer to the Hydrology Report) (See AFC, Appendix K.2).
- Construction BMPs will be followed and applied per the SWPPP (Construction Drainage, Erosion, and Sediment Control/Stormwater Pollution Prevention Plan) (Merrell-Johnson 2009).

**Item 52:**

**Information Required:**

Please provide a detailed description of proposed avoidance, minimization, and mitigation for direct, permanent impacts to a minimum of 12.5 acres of State-jurisdictional waters (which include Waters of the U.S.), as referenced in Avoidance and Minimization measure WATER-1 (AFC pg. 5.3-51), including:

- A. Proposed project design features that would avoid impacts to State-jurisdictional waters;
- B. Proposed avoidance and minimization measures applicable to State-jurisdictional waters; and
- C. Proposed mitigation for direct impacts to a minimum of 12.5 acres of State - jurisdictional waters and supporting records of conversation with CDFG.
- D. If habitat compensation is proposed, please provide proposed impact-to-compensation ratios and proposed locations for habitat acquisition. This should also be detailed in the Draft Streambed Alteration Notification(s).

**Response:**

- A. Proposed project design features that would avoid impacts to State jurisdictional waters include:
  - Potential impacts to the playa lakebed will be avoided through the drainage plan and design. Measures will be employed to return channelized flow to their historical sheet flow conditions as they leave the project site and flow into Harper Dry Lake. Additionally, diffusers and energy dissipaters will also be a component to ensure that intercepted and diverted sheet runoff/flow will be conveyed to their historical flow volume and drainage patterns as they leave the project site and flow into Harper Dry Lake. The channels will be designed and constructed following the flow design requirements of the San Bernardino

County Flood Control District to include flow bulking, erosion protection, and free-board. Please refer to the Hydrology Report for specific details and plans (See AFC, Appendix K.2).

B. Proposed avoidance and minimization measures applicable to State jurisdictional waters:

- Please refer to the Hydrology Report for drainage plan and design of diversion channel. (See AFC, Appendix K.2).
- Impacts are avoided to the 1.32 acres of tamarisk scrub wetland through a construction exclusion area. Please refer to Figure 8 (Potential Jurisdictional Waters of the U.S. and State) from the JDLR. (Attachment for Response to Data Request 49).
- Impacts to approximately 1.74 acres of tamarisk riparian scrub will not be avoided.
- Construction vehicle and equipment access to the site will be granted temporarily to the contractors who will be conducting installation and maintenance activities. Access will be conducted during daylight working hours and on days approved by the County.
- Access is available via paved and dirt roads that lead to the project site. The project area closest to Harper Dry Lake will be used only as a temporary staging area. Access and staging at the site will be conducted in a manner that avoids direct or indirect impacts to adjacent native and nonnative habitat areas. Prior to commencement of mitigation activities, the limits of the mitigation site will be surveyed and marked in the field. Orange silt fencing with metal T-posts will be installed along the western limit of the site (coincident with the limits of existing wetland/riparian habitat along the creek) to demarcate boundaries and also protect existing native habitat and maintain soil on-site as part of erosion-control measures. These limits and the temporary fencing will be checked and confirmed by the ecologist and County before the contractor begins the construction phase.
- To protect against contaminant leakages during access and staging, the contractor will be responsible for taking measures to prevent chemicals, fuels, oils, or other hazardous materials from entering public water, air, and/or soils. Disposal of any materials, wastes, effluent trash, garbage, oil, grease, chemicals, etc., will be done in accordance with federal, state, and local regulations.

C. Proposed mitigation for direct impacts to a minimum of 12.5 acres of State jurisdictional waters and supporting records of conversation with CDFG.

- Based upon project design (including drainage plan and design of diversion channel), approximately 1.74 acres of tamarisk scrub will be permanently impacted. Based upon personal communication at the project site with CDFG (Tanya Moore and Eric Weiss) on December 17, 2009, concerning project design and level of impacts, no mitigation will be required for the removal of tamarisk scrub or for the 9.44 acres of playa lakebed.
- D. Based upon project design (including drainage plan and design of diversion channel) and personal communication at the project site with CDFG (Tanya Moore and Eric Weiss) on December 17, 2009, no compensatory mitigation for potential impacts to jurisdictional waters of the State is proposed.

**Item 53:**

**Information Required:**

Please provide an expanded assessment of impacts to 1.32 acres of Waters of the U.S., including:

- A. An explanation of why a CWA Section 404 permit is not required for direct impacts to 1.32 acres of Waters of the U.S.;
- B. Proposed project design features that would avoid impacts to USACE-jurisdictional waters;
- C. Proposed avoidance and minimization measures applicable to USACE-jurisdictional waters; and
- D. Proposed mitigation for direct impacts to USACE-jurisdictional waters (as applicable) and supporting records of conversation with USACE.

**Response:**

- A. Based upon project design and construction, this project will not discharge dredge or fill within the 1.32 acres of tamarisk scrub wetland (i.e., there will be no impacts to jurisdictional waters of the U.S.). Therefore, there is no proposed regulated activity planned to occur within waters of the U.S. Additionally, the USACE is currently conducting a review of the JDLR to determine whether the project will require a permit under CWA Section 404 for potential impacts to waters of the U.S.
- B. There is a construction exclusion zone designed to avoid the 1.32 acres of tamarisk scrub wetland. Additionally, potential impacts to the playa lakebed will be avoided through the drainage plan and design. Measures will be employed to return channelized flows to their historical sheet flow conditions as they leave the project site and flow into Harper Dry Lake. Diffusers and energy dissipaters will also be a component to ensure that intercepted and diverted sheet runoff/flow will

be conveyed to their historical flow volume and drainage patterns as they leave the project site and flow into Harper Dry Lake. The channels will be designed and constructed following the flow design requirements of the San Bernardino County Flood Control District to include flow bulking, erosion protection, and free-board. Please refer to the Hydrology Report for specific details and plans (See AFC, Appendix K.2).

- C. See above and attached Hydrology Report (See AFC, Appendix K.2).
- D. Currently, there are no proposed impacts to jurisdictional waters of the U.S. If it is determined that there will be permanent impacts to jurisdictional waters of the U.S., appropriate compensatory mitigation will be discussed with the Los Angeles District of the USACE as part of the CWA Section 404 permit process. However, at this time there has been no discussion concerning compensatory mitigation for potential jurisdictional waters of the U.S. occurring within the project area.

**Item 54:**

**Information Required:**

Please provide detailed information regarding the proposed project's effect on current water delivery/conveyance to the marsh, including, but not limited to:

- A. The estimated reduction of water runoff to the marsh from retirement of active agricultural land within the proposed Beta site;
- B. Total estimated reduction of water runoff to the marsh from construction of the proposed project (also considering reductions from retirement of agricultural lands within the project area); and
- C. A discussion of the effects the proposed drainage system would have on current water delivery/conveyance to the marsh.

**Response:**

- A. Agricultural operations and the concomitant runoff that flowed into Harper Dry Lake ceased in the early 1980s. Harper Dry Lake does not currently experience supplemental surface water inputs as a result of agricultural activities. At this time, there are 160 acres under agricultural operations (hay feed) in Beta Field, which is irrigated via pivot sprinkler. The 160 acres represents about 5% of the past agricultural operations. Irrigation is rate adjusted to be as efficient as possible, allowing instantaneous infiltration, and to prevent any surface runoff. The amount and rate of irrigation take place within a slope of approximately 0.3%, which also prevents any velocity potential for runoff. Field observations during the delineation process confirmed lack of runoff from agricultural operations. The 1.32-acre tamarisk stand is actually declining from lack of water. There are as many dead



standing tamarisks as live ones and tamarisk regeneration is virtually nonexistent (due to lack of water over the last 25 years).

- B. There will be no reduction of runoff to Harper Dry Lake as a result of construction of the proposed project or the retirement of agricultural lands (at the Beta Site) because measures will be employed to return channelized flows to their historical sheet flow conditions while stormwater will be conveyed to its historical flow volume and drainage patterns as it leaves the project site and flows into Harper Dry Lake.
- C. See above.

**Item 55:**

**Information Required:**

Please provide a quantitative assessment of the change in sediment load to the marsh during project construction and operation.

**Response:**

The primary event that conducts sediment is a 100-year storm event. Construction of the project will not likely occur during a 100-year storm event. No calculations for quantifying sediment loads occurring within stormwater runoff have been undertaken. Methods to abate potential additional sediment inputs are outlined in the construction SWPPP BMPs. Please refer to Appendix K.1 of the AFC.

**Item 56:**

**Information Required:**

Please provide a detailed description of the on-site features that could potentially improve the water quality of stormwater runoff before reaching the marsh.

**Response:**

There are no on-site features related to this project that will potentially improve the water quality of stormwater. Stormwater flows will be returned to their original volume and drainage patterns as they reach Harper Lake. The off-site sheet flow tributary to the Mojave Solar Project will be intercepted along the southern and eastern boundaries of the site, conveyed around the project site within improved drainage channels, and will outlet within their historical volume and flow locations along the northern and easterly project boundaries. Measures will be employed to return the channelized flows to their historical sheet flow conditions as they leave the project site and flow into Harper Dry Lake. The channels will be designed and constructed following the flow design requirements of the San Bernardino County Flood Control District to include flow

bulking, erosion protection, and free-board. Please refer to the Hydrology Report for specific details and plans (See AFC, Appendix K.2).

**Item 57:**

**Information Required:**

Provide a map, at appropriate scale, showing the location of these buffer features relative to the proposed project and the Harper Dry Lake wetlands. Provide additional detail maps if the scale proves to be too large.

**Response:**

Please see attached Figure 13 (Jurisdictional Delineation and Plant Site Details) and Figure 14 (Jurisdictional Delineation Detail and Plant Site) from the JDLR for the location of the drainage outlet and facility structure (Channel A3) (Attachment for Response to Data Request 51). Please see Section 2 (Exhibits) of the Hydrology Study for Mojave Solar Project (Merrell-Johnson Engineering 2009) (See AFC, Appendix K.2).

**Item 58:**

**Information Required:**

Please...also provide:

- B. The Abengoa Mojave Solar Biological Assessment or Habitat Conservation Plan, as appropriate, for review by USFWS and the Energy Commission staff.

**Response:**

The Applicant has prepared the Abengoa Mojave Solar Biological Assessment on behalf of the U.S. Department of Energy (DOE) for review by USFWS and Energy Commission staff, and is included as Attachment for Response to Data Request 58 to this supplemental set of responses to Data Request Set 1A.

**Item 59:**

**Information Required:**

Please provide a copy of the Abengoa Mojave Solar Section 2081 incidental take permit application as submitted to CDFG, or the projected date of its submittal.

**Response:**

The Applicant has prepared the Abengoa Mojave Solar Section 2081 incidental take permit application for review by CDFG and the Energy Commission staff, and is

included as Attachment for Response to Data Request 59 to this supplemental set of responses to Data Request Set 1A.

**Item 69:**

**Information Required:**

Please develop and provide a detailed draft Evaporation Pond Monitoring/Remediation Action Plan for review by the Energy Commission staff, USFWS, and CDFG. The plan should expand on the components outlined in Avoidance and Minimization Measure AVIAN-2 (AFC, pg. 5.3-49), to include:

- A. A discussion of the frequency and nature of the monitoring;
- B. The elements that will be monitored (e.g., selenium, sodium);
- C. Remedial actions if the ponds become a hazard for wildlife; and
- D. The triggers/thresholds for implementation of remedial actions.

**Response:**

The Applicant has prepared a detailed Draft Evaporation Pond Monitoring/Remediation Action Plan for review by the Energy Commission staff, USFWS, and CDFG. The Draft Plan is included as Attachment for Response to Data Request 69 to this supplemental set of responses to Data Request Set 1A.

**Item 71:**

**Information Required:**

Please develop and provide a detailed draft Common Raven Monitoring, Management, and Control Plan (Raven Control Plan) for review by the Energy Commission staff, USFWS, and CDFG. The plan should expand on the components outlined in Avoidance and Minimization Measure DT-18 (AFC, pg. 5.3-45), to include:

- A. Conditions associated with the project that might provide raven subsidies or attractants;
- B. Management practices to avoid or minimize conditions that might increase raven numbers and predatory activities;
- C. Control practices for ravens;
- D. Raven monitoring strategies during construction and for the life of the project; and
- E. Reporting strategies.

**Response:**

The Applicant has prepared a detailed Draft Common Raven Monitoring, Management, and Control Plan (Raven Control Plan) for review by the Energy Commission staff, USFWS, and CDFG. The Draft Raven Control Plan is included as Attachment for Response to Data Request 71 to this supplemental set of responses to Data Request Set 1A.

**Item 72:**

**Information Required:**

To address potential cumulative impacts to desert tortoise, staff is also supportive of the applicant contributing to USFWS's regional raven monitoring and control plan. In coordination with USFWS, please provide details on the proposed funding mechanism (e.g., payment of an in-lieu fee to a third-party account established by the USFWS). This should also be incorporated into the draft Common Raven Monitoring, Management, and Control Plan described above.

**Response:**

On December 8, 2009, the Energy Commission held an Issues Identification Workshop in Sacramento, California, for the Abengoa Mojave Solar Project. During the course of the workshop, Ashleigh Blackford of the USFWS informed the attendees that the Regional Raven Monitoring and Control Program was still in development, and that a formal funding process has not yet been established. Since the Program has not been finalized, the USFWS stated that it would be acceptable to include a statement within the Draft Common Raven Monitoring, Management, and Control Plan acknowledging that the Applicant is supportive of providing an in-lieu fee to help support the Regional Plan. This statement has been included in the Draft Common Raven Monitoring, Management, and Control Plan referenced in the response to Item 71.

## **LAND USE**

### **Item 78:**

#### **Information Required:**

Please provide information on how the applicant plans to resolve conflicts with the height and building coverage requirements of the RL zone, and San Bernardino County's position on these zone inconsistencies, and a related schedule.

#### **Response:**

Representatives of the Mojave Solar Project met with San Bernardino County (County) staff on Tuesday, December 15<sup>th</sup> and again on Monday, December 21<sup>st</sup>, 2009 to review the Mojave Solar Project and address the county's development standards and guidelines. Mojave Solar Project will work with San Bernardino County to ensure that the project design is compatible with the county code.

It is the Project's understanding that the County has agreed to provide recommended conditions and findings it would impose were it the permitting agency. We anticipate these conditions being delivered to the Commission by January 23<sup>rd</sup>. For issues where the project may be in conflict with zoning requirements or LORS, it is the Project's understanding that the County will internally review the conflicts and provide variances if needed as they would for any other project under their review and incorporate these into their recommended conditions of certification.

### **Item 79:**

#### **Information Required:**

Please provide information from San Bernardino County regarding the Conditional Use Permit (CUP) findings it would make for the Project, but for the exclusive authority of the Energy Commission, and the conditions San Bernardino County would attach to this Project, were it the permitting agency. Any conditions recommended by the county as part of a CUP would be considered by Energy Commission staff for inclusion in the conditions of certification for the Project.

#### **Response:**

Please refer to Item 78 above.

### **Item 80:**

#### **Information Required:**

Please provide the county's position on the proposed project's overall consistency with its General Plan and Zoning Ordinance.

**Response:**

Please refer to item 78 above.